



Lowering the Boom

■ NASA works to find ways of reducing noise generated by exceeding sound barrier

By Jay Levine
X-Press Editor

As neighbors of Edwards Air Force are well aware, supersonic jets cause a thundering boom that shakes walls and windows with a deep rumble, startling pets and humans alike.

Dryden is leading a NASA effort to study ways of dramatically reducing those boom-related annoyances, which occur when an aircraft travels faster than the speed of sound.

As part of that effort, an aircraft demonstrator will showcase technologies designed to reduce the noise associated with sonic booms. In first stages of the experiment, a group of NASA and university researchers made complex recordings of sonic booms that will be replicated in a laboratory setting for a closer look at their effects.

"These tests are part of the research work to establish what is an acceptable boom," said Bob Meyer, Sonic Boom Mitigation Demonstration project manager at Dryden. "The next step is to see if a demonstrator vehicle can achieve that level of boom." The project is part of NASA's Vehicle Systems program.

"Concept-exploration studies are underway (see accompanying story) to investigate designing and building a piloted aircraft that is expected to fly by late 2008," he added. "The aircraft is anticipated to be in the 30,000-pound range and we expect to release a request for proposals this fall."

The demonstrator aircraft is expected to fly at speeds of from 1.4 to 1.8 Mach. For comparison, the European Concorde aircraft traveled at speeds of about Mach 2, but the supersonic portion of

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EC05 0124-13

NASA Photo by Tom Tschida

Dryden volunteers sit beneath the flight path where an F/A-18 created a sonic boom. The 18 volunteers were helping researchers to determine whether detailed recordings of the sonic boom could be used to accurately simulate the real thing.



EC05 0124-24

NASA Photo by Tom Tschida

Anthony Atchley, a Pennsylvania State University researcher, checks the microphones used to make detailed recordings of sonic booms.



EC05 0124-39

NASA Photo by Tom Tschida

At front, from left, Dryden volunteers Candace Mertes, Liz Kiffling and Kirk Caldwell take notes during the experiment. Pennsylvania State University researcher Kathy Hogdon is in the background.

NASA grants fund industry research on sonic boom

By Gray Creech and Kathy Barnstorff/Elvia Thompson

Dryden Public Affairs and Langley/NASA Headquarters Public Affairs

Together with several industry teams, NASA is studying how to design and build an aircraft that could demonstrate technology to lessen the noise and window-rattling effects of supersonic flight.

Preparations for NASA's planned Sonic Boom Mitigation Project include a study of concept feasibility and design requirements for a prototype technology demonstration airplane that could reduce the startling "sonic boom" when an aircraft exceeds the speed of sound.

"NASA plans to develop a request for proposals to design and build a low sonic boom demonstrator using the information provided by the teams," said Bob Meyer, Sonic Boom Mitigation Demonstration Project manager at Dryden.

A NASA grant was awarded to American Technology Alliances to fund the studies, which will be conducted by four industry teams. The teams include solo endeavors by Boeing Phantom Works, Long Beach, Calif., and Raytheon Aircraft, Wichita, Kan. Northrop Grumman, El Segundo, Calif., is working with Gulfstream Aerospace, Savannah, Ga., and

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Planetary Flight Vehicles highlighted in X-press (insert)

Center Director's column

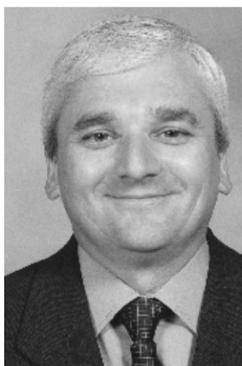
New business processes will pay off

During NASA Administrator Michael Griffin's recent visit to Dryden, he expressed his personal support for aeronautics and urged us to "hang on" while he tries to gain support for a revitalized aeronautics effort. He also encouraged us to align our work with what the Agency and the nation need. Where we have unique capabilities that match the country's needs, we should make them available.

Fortunately, what we have been doing aligns well with this wise counsel. Our primary objective has been to retain our capability to perform our flight research mission for NASA and the nation. To that end, we have sought customers outside of NASA and have secured for Dryden considerable reimbursable work (work in which we are reimbursed with non-NASA funds for work done for others). In the process, though, we have had to focus on doing those things the customers want. This means that in some cases we have had to respond to specific customer requirements, which may be more "test" than "research" oriented. We also have needed to find ways of reducing our costs so that our proposals can be more competitive.

I am sure many of you are uncomfortable with the result, which you may perceive as changing our traditional flight research mission. But we must adapt to the current fiscal climate until there is renewed support for more traditional flight research. Meanwhile, because new projects always present technical challenges, if we tackle them with our usual vigor and enthusiasm we will continue to advance aeronautical knowledge and lay the groundwork for future advanced projects.

Our transition to the new NASA and other reimbursable projects demanded that the Center make significant changes to our organization and our processes. We created a Program Planning office to seek new business opportunities and



Center Director
Kevin L. Petersen

we are adapting our business processes to include reimbursable activities. In some cases, we have experienced growing pains. If you observe problems with these or other processes, please take the time to pass your observations on to the process owners.

For example, with new reimbursable projects a Resource Authorization Directive – or RAD – may not have been assigned at a project's outset. If you are working on such a project, you should charge your time to a planning RAD until the new project is established. Please contact your supervisor if you are unsure of the correct charging code.

We also need to ensure that our new processes are documented in our document master list so that everyone can easily learn the correct steps to follow. The Management Systems office, headed by Carol Reukauf, needs to make sure all the processes fit together appropriately. So if you are the owner of a recently added or altered process, please provide the new or corrected documentation to Carol.

In these ways, with your help, we can manage the transition to the next phase in Dryden's history more effectively.



EC05 0124-51

NASA Photo by Tom Tschida

Researchers carefully instrument a mannequin to collect information on how sonic booms from aircraft traveling faster than sound affect people on the ground. The microphones collected detailed sonic boom information so the recordings could be used to simulate the real thing in a controlled laboratory setting.

Sonic Boom ... from page 1

Concorde flights was permitted only over the ocean. Sonic boom mitigation is key to ending a prohibition by the Federal Aviation Administration on commercial or business jets flying supersonically over land, Meyer said.

In 2004, NASA asked 10 aerospace industry firms to identify where the greatest potential for financial benefit in supersonic research might lie. This group, called the Super 10, told NASA an urgent need existed for mitigating the sonic boom. Once that could be accomplished, the group said, the prohibition against overland supersonic flight due to sonic booms could end, allowing new opportunities for commercial and business aviation to emerge.

As part of the sonic boom recording and simulation experiments, NASA, the FAA and Transport Canada are co-sponsoring the Partnership for Air Transportation Noise

and Emissions Reduction, or PARTNER Center of Excellence to conduct research into how people react to sonic booms, said Peter G. Coen, Supersonic Vehicle Sector manager, who is based at NASA's Langley Research Center, Hampton, Va.

An element of this research being conducted by Pennsylvania State University, Purdue University and NASA is directed at determining better ways to simulate sonic booms in laboratory conditions by using detailed recordings of the real thing.

Dryden was the site for a sonic boom study June 15 when four F/A-18 research aircraft generated 17 sonic booms that were heard in the surrounding area. On the ground beneath the aircraft's flight track, an investigation team using sensitive microphones made detailed recordings of the booms, Coen explained. A group of 18 volunteers listened to the original sonic booms

and the simulated booms created with the recordings to give their impressions on the accuracy of the simulations.

"The information gathered from the research flights will be used to identify features of the sonic boom, which will improve the realism of laboratory simulations," Coen said. "Eventually, these improved simulations will be used to identify what levels of sonic boom noise are not offensive to ground observers. Information gathered through that effort then could be used by NASA and industry to develop technology for future supersonic aircraft that are environmentally and community friendly."

Dryden assisted Northrop Grumman in conducting a 2003 series of research flights with a modified F-5 Shaped Sonic Boom Demonstrator. Meyer said those tests focused on bow shocks, or shocks from the nose, while the current effort focuses on the entire aircraft.

News

at NASA

NASA awards CEV contracts

Two eight-month contracts, each worth approximately \$28 million, have been awarded by NASA for work on the Crew Exploration Vehicle. The contracts, one to Lockheed Martin Corp. and the other to the team of Northrop Grumman Corp. and The Boeing Co., will support a July 2006 review of the engineering systems for the CEV.

During this contract period, in addition to performing sustained engineering in support of the CEV review, contractors will continue to develop designs for NASA's next-generation vehicle for human space flight and demonstrate ability to manage cost, schedule and risk.

Results of NASA's Exploration Systems Architectural Study, which defines parameters for the new vehicle that will replace the Space Shuttle, will be incorporated into a "call for improvements" to be released later this year, inviting proposals from the selected contractors. These proposals will be evaluated for the final selection of a single CEV contractor.

The CEV is expected to carry up to six astronauts beyond low-Earth orbit soon after the Space Shuttle is retired in 2010, and then on to the moon as early as 2015.

Information about NASA and Agency programs on the Web can be found at <http://www.nasa.gov/home/index.html>.

Turbulence system could improve safety

Airline passengers and flight crews have one thing in common: they don't like turbulence. Researchers at Langley Research Center in Hampton, Va., and AeroTech Research (USA) Inc., Newport News, Va., have developed an automatic turbulence reporting system, a project that has the potential to dramatically improve safety in air travel.

The Turbulence Auto-PIREP System – or TAPS – is being tested on more than 80 Delta Airlines passenger jets.

When pilots know there's turbulence ahead, they can maneuver to avoid it or ensure passengers and flight attendants are seated and strapped in. Atmospheric turbulence is the leading cause of injuries to passengers and flight crews in non-fatal airline accidents.

Delta Air Lines and ARINC, Annapolis, Md., have teamed with NASA and AeroTech Research to evaluate TAPS. Since August 2004, the TAPS software has been flown on more than 85 Delta Boeing 737-800, 767-300 and 767-400 aircraft.

The turbulence research was funded by the NASA Aeronautics Research mission directorate's Aviation Safety and Security Program in partnership with the FAA, aircraft manufacturers, airlines and the Department of Homeland Security.

Information about NASA's Aviation Safety and Security Program may be found at <http://avsp.larc.nasa.gov>.

Teachers attend NASA Explorer School math/science workshop

By Beth Hagenauer
Dryden Public Affairs

Sixteen teachers from 10 states participated in a Dryden workshop in June designed to enable educators to incorporate NASA-based material into their science and math curricula.

Focused on the theme of "Transportation Systems: From Earth, to the Moon and on to Mars," the NASA Explorer Schools professional development workshop found teachers interacting with aerospace engineers, research pilots and former astronaut C. Gordon Fullerton during briefings and tours highlighting Dryden's aeronautical research and Space Shuttle support roles.

The teachers were given the opportunity to "fly" a test mission on a flight simulator and sit in the cockpit of a NASA F/A-18 mission support aircraft. Educators also learned during the sessions about the unique issues involved in life support for flight crews of high-altitude research aircraft. Workshops began June 19 and concluded June 24.

The 16 teachers represented schools competitively selected to be participants in the 2004 NASA Explorer School program, in what was the Agency-wide program's second year.

"The second-year NES development workshop focuses on integrating NASA-specific content into the schools' science and mathematics programs," said Linda Tomczuk, Dryden's NES program coordinator.

NASA Explorer Schools workshops provide an opportunity for middle school educators to enhance their background and skills in mathematics, science and technology. They observe state-of-the-art research, conduct hands-on experiments and investigations, learn more about instructional technology and collect information and resources for use in their classrooms and



EC05 0130-10

NASA Photo by Tom Tschida

Above (gesturing), Jan Minniear, Western Aeronautical Test Range business manager, and Fred Chatterton, standing, show visiting teachers highlights of a Dryden control room. Seated from left are NES educators Jed Palmer, Mark Lapidus and Nicole Palmer. Below, Kamela Harbert and Sylvia Johnson, foreground at right, apply balloon basics to master an aeronautical principle.

during community events.

Since its inauguration in 2003, the NES program has established three-year partnerships annually with 50 middle schools teams. The partnerships include teachers and educational administrators serving grades four through nine in schools from diverse communities across the nation. Schools in the program are eligible to receive grants of up to \$17,500 over the three-year period to support science and mathematics curricula.

For a list of NASA Explorer Schools visit <http://explorerschools.nasa.gov>. Information about



EC05 0130-4

NASA Photo by Tom Tschida

NASA Education programs may be found at <http://education.nasa.gov>.

AERO Institute announces partnerships

Dryden's AERO Institute in Palmdale has established educational partnerships with two leading universities, Purdue University of West Lafayette, Ind., and the Extended College at Embry-Riddle Aeronautical University.

Working professionals can earn a graduate degree in engineering through a flexible learning program offered by Purdue's College of Engineering. Degrees include an interdisciplinary Master of Science in engineering, for those with an undergraduate degree in engineering, and a Master of Science, designed for those with a Bachelor's degree outside of, but related to, engineering.

Master's degrees in mechanical, industrial and electrical and computer engineering also will be offered. The distance-learning program includes courses from Purdue's mechanical and aeronautics and astronautics engineer-

ing programs. Graduate courses available this fall include structural acoustics, fluid mechanics, design optimization, fatigue of structures and materials and methods of aerospace structures.

A variety of non-credit short courses on technical and engineering management topics will be held at Palmdale. Other course offerings and registration information for the program can be found at <https://engineering.purdue.edu/CEE/>. For information contact Dale Harris, executive director of continuing engineering education at Purdue, (765) 494-0213, harris@purdue.edu; or Carol Sauerhoff, manager of marketing and client services for continuing engineering education, (765) 494-0469, sauerhof@purdue.edu.

Degrees in several disciplines may be earned while working full or part time, through a flexible learning program offered by Embry-Riddle. Courses are offered lo-

cally at sites at Edwards Air Force Base and in Palmdale and Victorville. Academic programs being offered include Associate degrees in professional aeronautics and technical management; Bachelor's degrees in aviation maintenance management, technical management and professional aeronautics; and Master's degrees in aeronautical science with specializations in aeronautics, aerospace/aviation management, aerospace/aviation operations, and safety systems.

Class schedules for Edwards are available at <http://fusion.erau.edu/ec/wwc/schedules2.cfm?CODE=A1&T=Fall-2&Y=2005>, and for the Palmdale/Victorville sites at <http://fusion.erau.edu/ec/wwc/schedules2.cfm?CODE=D5&T=Fall&Y=2005>.

Information about AERO Institute programs also may be obtained by calling the Institute, (661) 276-7428.

Study ... from page 1

Lockheed Martin in Palmdale has teamed with Cessna Aircraft Co. of Wichita.

The same grant also is funding work by Allison Advanced Development Co., Indianapolis; GE Transportation, Cincinnati; and Pratt and Whitney, Hartford, Conn., that will support the teams with engine-related data.

Each team has been awarded approximately \$1 million for a five-month study. Results will be used to define technology and design requirements for a low sonic boom demonstration aircraft. The

questions the research will answer include whether it's feasible to modify an existing aircraft to be the quiet boom demonstrator, or whether a whole new aircraft design will have to be created.

"The concept exploration studies are crucial," said Peter Coen of Langley Research Center at Hampton, Va., a member of the Sonic Boom Mitigation Project planning team. "Those studies will determine whether a low sonic boom demonstrator aircraft can be built at an affordable cost in a reasonable amount of time."

The Sonic Boom Mitigation Project could begin work on the research aircraft as early as this fall.

"It is one element of a transformed Vehicle Systems program in which breakthrough technologies are carried forward to flight," said Rich Wlezien, manager of the Vehicle Systems program in NASA's Aeronautics Research mission directorate programs.

More information about the Vehicle Systems program may be found at <http://www.aeronautics.nasa.gov/vsp>.

Open house set to include Dryden flights

Dryden pilots will be flying six different aircraft in three flying demonstrations during the Edwards Open House and Air Show that begins Oct. 22.

Research pilot Dick Ewers said the ER-2 high-altitude aircraft will fly by. Another demonstration will feature the T-34 and a Dryden F/A-18.

A formation flight is planned that will include the G-3, an F/A-18, a T-38 and the F-15 Intelligent Flight Control System aircraft, as a Dryden event highlight.

Static displays and exhibits featuring Dryden's one-of-a-kind projects and research aircraft will be among those highlighting the two-day event.

Car trouble? Here's help

Services are available to Dryden employees who experience problems with their vehicles while at work.

The Edwards Air Force Base Hobby Shop/95th Services will respond to problems such as starting difficulties, flat tires and keys locked in vehicles. Locked vehicle calls are subject to authorized personnel being on duty and vehicle make and model. Hobby Shop personnel are unable to open every model of car.

Hours are 8 a.m. to 4 p.m. The shop may be reached by calling (661) 275-2886.

The 95th Security Forces Squadron Police will respond to locked vehicle calls twenty-four hours a day, seven days a week. The vehicle must be a privately owned – not government – vehicle, and 95th Security Forces staff also may be unable to open all vehicle makes and models. The squadron may be reached at (661) 277-3340.

Exchange Events

The Dryden Exchange Council is sponsoring the following activities:

An Aerospace Appreciation Night is set for Aug. 19 at JetHawks stadium in Lancaster, with the JetHawks playing the Bakersfield Blaze. The event will feature activities honoring former astronaut Vance Brand, including a Bobblehead doll giveaway and post-game fireworks. Discounted second-level box seats are available through the Exchange Council for the 7 p.m. game.

Discounted second-level box seating also is available for the Sept. 5 JetHawks game against the Lake Elsinore Storm. A fireworks display will follow the game. Tickets go on sale Aug. 9.

A Murder Mystery Train Ride trip is set for Sept. 17 on the Fillmore & Western railroad. Tickets are \$80 per person, and include round-trip bus transportation, dinner and three-hour "murder mystery" show. A no-host bar will be available on board the train. Tickets go on sale Aug. 16.

Pizza nights, at Round Table Pizza in Lancaster, also are being planned for August. Cost for each event is \$10 per person, and includes one large two-topping pizza and choice of four sodas, one pitcher of beer or one carafe of wine.

Tickets and information for all events may be obtained by calling the Dryden Gift Shop, ext. 2113, or Jessica Lux-Baumann, ext. 3820.

Retirees who would like to visit Dryden should contact Darlene Homiak at (661) 276-3064 at least 72 hours in advance of their visit.

NASA honors som

Outstanding Leadership Medal

Joel R. Sitz

For outstanding leadership of the X-43A flight project that resulted in precedent setting, hypersonic-scramjet vehicle flight tests at high Mach numbers.



Ginger F. Bailey

For her extraordinary leadership as the acting deputy chief financial officer during a time of great changes and challenges.



John Sharkey

For outstanding leadership of Dryden's advanced planning and flight program advocacy efforts.



Exceptional Achievement Medal

Claude V. Chacon

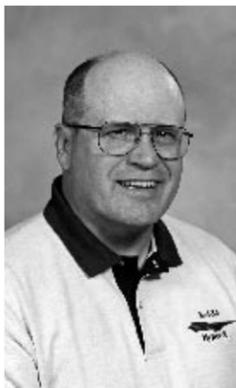
For outstanding leadership in the transformation of business systems at Dryden.



Exceptional Service Medal

Griffin P. Corpening

For exceptional engineering achievement critical to the success of the X-43A hypersonic test program.



EC04 0093-1

And the winners of the group awards are ...

Clockwise from above are photos of five of the six groups honored with 2005 NASA Awards. The X-43A Team received a Group Achievement Award for successful completion of the first airframe integrated supersonic combustion ramjet engine Mach 7. The Range Safety Systems Team received a Group Achievement Award for deployments supporting science missions to Chile, Costa Rica and within the U.S. The Institute for Scientific Research Team was honored with a Group Achievement Award for outstanding support of the Agency's Space Exploration and Aeronautics missions. The X-43A Test Program Team was honored with a Group Achievement Award for outstanding performance in conducting the X-43A test program. See pages 7-8 for a listing of group members and a photo of the Arcata Associates Team, which was recognized with a Group Achievement Award.



ED04 0056-158

NASA Photo by Jim

e of Dryden's best



NASA Photo by Tom Tschida

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NASA Photo by Tom Tschida

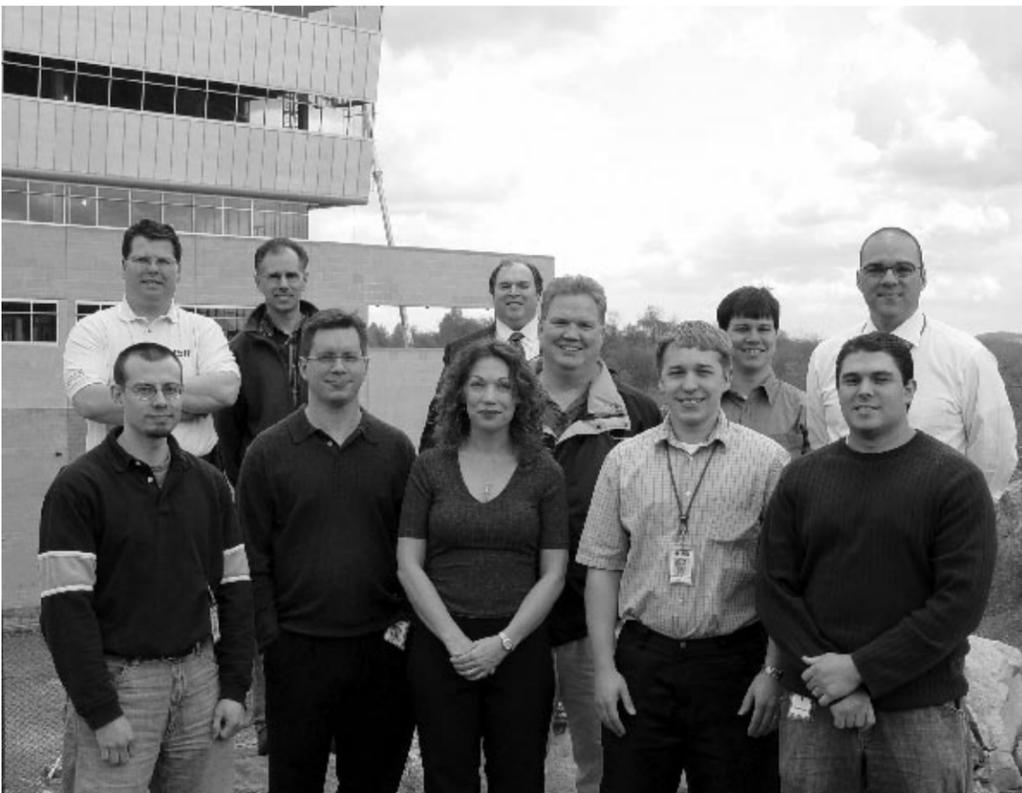


Photo Courtesy The Institute for Scientific Research Team



n Ross EC05 0098-1

NASA Photo by Tom Tschida

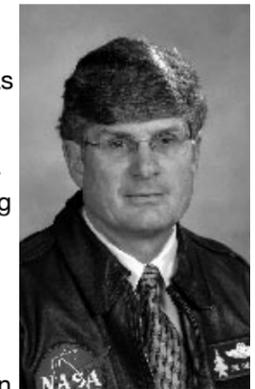
Laurie Grindle

For exceptional service in the flight testing of unique research air vehicles.



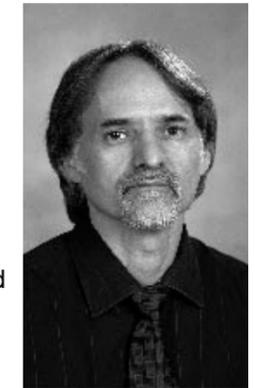
James W. Smolka

For sustained exceptional performance as a NASA research test pilot and providing outstanding technical and programmatic leadership in support of NASA Aeronautics mission objectives.



Michael E. Yettaw

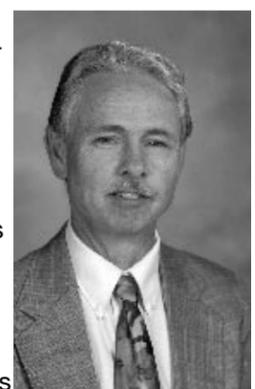
For his sustained contributions to the Agency's Space Exploration and Aeronautics missions by solving complex space and air-to-ground communication problems.



Public Service Medal

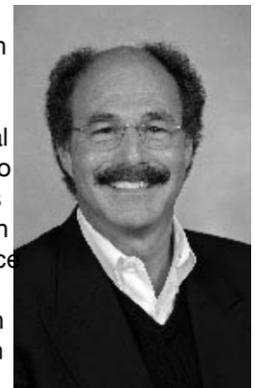
Keith D. Williams

Analytical Services & Materials Inc. For outstanding leadership and contributions to improve Dryden's effectiveness and efficiency by developing and maintaining the Center's management system.



Gerald Brokaw

Charleston Center for High Performance Organizations For exceptional contributions to the continuous improvement in the performance and effectiveness of Dryden and its mission to NASA.



Speed record validated

Guinness recognizes NASA's X-43A scramjet flight

By **Leslie Williams**
Public Affairs Specialist
and **Elvia Thompson/Keith Henry**
NASA Headquarters/Langley Research Center

It's official. The new world speed record for a jet-powered aircraft, set by NASA in November, has been officially recognized by Guinness World Records.

The third and final flight in the experimental X-43A project demonstrated that an advanced form of air-breathing (jet) engine could power an aircraft to nearly 10 times the speed of sound. Data from the unpowered, 12-foot-long research vehicle show that its revolutionary "scramjet" engine worked successfully at Mach 9.6, or nearly 7,000 mph, as it flew at about 109,000 feet over the Pacific Ocean west of California.

The flight was the culmination of NASA's Hyper-X program, a seven-year, approximately \$230 million ground and flight test program designed to explore an alternative to rocket power for space access vehicles.

This is the second world speed record earned by the Hyper-X program. The first came following its Mach 6.8 (nearly 5,000 mph) flight in March 2004, which easily shattered the previous, long-standing record. Both records will be featured in the 2006 edition of the Guinness World Records book, which will be published in September.

NASA is interested in supersonic combustion ramjet technology because scramjet engines derive oxygen from the atmosphere.



ED04 0320-16 NASA Photo by Tom Tschida

NASA's NB-52B launch aircraft takes off carrying the third X-43A hypersonic research vehicle attached to a modified Pegasus rocket on the record-setting flight Nov. 16, 2004.

This allows more airplane-like operations for increased affordability, flexibility and safety in ultra-high-speed flights. Once a scramjet-powered vehicle is accelerated to about Mach 4 by a conventional jet engine or booster rocket, it can fly at hypersonic speeds, potentially as fast as Mach 15, without carrying the heavy oxidizer required by rockets.

A ramjet operates by subsonic combustion of fuel in a stream of air compressed by the

forward speed of the aircraft itself, as opposed to a conventional jet engine, in which the compressor section (fan blades) compresses air. A scramjet is a ramjet engine in which the airflow through the entire engine moves continuously at supersonic speeds.

"These demonstrations proved the viability of scramjet engine technology in a 'real-world' flight environment and were the result of over 40 years of high-speed propul-

sion research within NASA," said Dryden's Paul Reukauf, deputy project manager for X-43A flight research and testing.

The new Guinness World Record certificate reads:

"On 16 November 2004, NASA's unmanned Hyper-X (X-43A) aircraft reached Mach 9.6. The X-43A was boosted to an altitude of 33,223 m (109,000 ft) by a Pegasus rocket launched from beneath a B52-B aircraft. The revolutionary 'scramjet' aircraft then burned its engine for around 10 seconds during its flight over the Pacific Ocean."

The previous known record for an air-breathing vehicle—but not an airplane—was held by a ramjet-powered missile, which traveled slightly faster than Mach 5. The highest speed attained by a rocket-powered airplane, NASA's X-15 aircraft, was Mach 6.7. The fastest air-breathing, manned vehicle, the SR-71 Blackbird, traveled slightly faster than Mach 3.2. The X-43A more than doubled, then tripled, the top speed of the jet-powered SR-71.

The Hyper-X program took place under the auspices of the NASA Aeronautics Research mission directorate. Langley Research Center, Hampton, Va., was lead center with responsibility for hypersonic technology development while flight research and testing was conducted at Dryden.

For more information on programs of the Aeronautics Research mission directorate, including Hyper-X, visit <http://www.aeronautics.nasa.gov>.

X-Press nets 5th straight APEX Grand Award

In the 2005 Awards for Publication Excellence – or APEX – competition, the Dryden X-Press has been honored with a Grand Award for the X-43A Special Edition, titled "11 Seconds into the Unknown." The win marks the fifth consecutive year that the X-Press has captured a Grand Award in the international contest, which honors the top two percent of communication tools selected from nearly 5,000 entries.

Judges had this to say about the X-43A Grand Award winner: "Cutting-edge, well-written feature articles pull readers in and hold their attention, while bold, attractive spreads, interesting photo spreads and clean, readable typography reinforce the content, making this special edition one to keep."

Dryden publications also received individual Awards of Excellence in six other categories:

- The X-43A Special Edition was recognized for photography by photo chief Jim Ross, Carla Thomas, Tony Landis and Tom Tschida.
- Also for the X-43A edition, Editor Jay Levine's concept and creation of the cover was recognized.
- In the Personality Profiles category, Dryden historian and archivist Peter Merlin's X-Press feature story, "Michael Adams: Remembering a Fallen Hero" was a winner.



• The entire Sept. 30 edition of the X-Press was selected as a top entry in the Magapaper and Newspaper Overall Writing category.

• The Sept. 30 edition also was selected as a top entry in the Magapaper and Newspaper General Excellence category.



The X-43A Special Edition, pictured at left, was judged a 2005 Grand Award winner in the Awards for Communication Excellence competition. Just two percent of the 5,000 entries won the award. Above, the latest X-Press product, dubbed the X-tra.

• The book "From Runway to Orbit: Reflections of a NASA Engineer" won an Award of Excellence in the Books and Book Chapters category. It was written by former NASA Chief Engineer Ken Iliff, co-written by Dryden historian and archivist Curtis Peebles and designed and laid out by Visual

Communications Manager Steve Lighthill (featuring paintings by Dryden research pilot Mark Pestana on the front and back covers).

This year marked the 17th annual APEX Awards competition. The contest is sponsored by Communication Concepts Inc., a Springfield, Va.-based organization dedicated to business writing in the corporate, profit/nonprofit and government agency environments. Communication Concepts personnel judge entries and select winners, recognizing the best of the best in the business communications field.

Among other entrants in this year's contest were nonprofit organizations such as the International Monetary Fund, the Humane Society of the U.S. and WGBH-TV Public Broadcasting; academic institutions such as George Washington University and Auburn University, and corporations such as Microsoft, Dow Jones & Co. and Lockheed Martin.

The X-Press newspaper's mission is to tell Dryden's story and focus on its projects. To that end, X-Press staff debuted a new publication, X-tra, in July as another venue for showcasing Dryden's diverse accomplishments. The color X-tra editions will appear on an occasional basis and will be inserted in the regular X-Press editions.

July 2, 1959 – Pilots Stan Butchart and Milt Thompson delivered JTB-29A (45-21800) to Davis-Monthan Air Force Base, Ariz., for permanent storage.

July 14, 1962 – X-15 flight cancelled due to Project SMALL BOY low-yield nuclear test at Yucca Flat, Nev.

July 30, 1963 – Joe Walker gave up leave time to test fly first F-104N (011) at Palmdale.



July 16, 1965 – Capt. Jerauld Gentry inadvertently rolled the M2-F1 lifting body inverted during an air-tow flight, while still attached to the C-47H (17136/

N817NA). After a successful release and landing, Gentry said, "I'm the first one to roll this toad!"

July 17, 1965 – Al White and Col. Joe Cotton delivered XB-70 (62-0207) to Edwards Air Force Base from Palmdale.

July 20, 1981 – Boeing 720B (N833NA) arrived at NASA DFRC for Controlled Impact Demonstration program.

July 25, 1991 – Pilots Rod Dyckman and Steve Ishmael delivered SR-71B (61-7956)

to Dryden Flight Research Facility from Beale Air Force Base, Calif.

July 11, 2000 – The X-38 (V-131R) arrived at NASA DFRC onboard the 377SGT-201 Super Guppy (N941NA) from Johnson Space Center, Texas.

July 30, 2001 – B-52H (61-0025) was delivered to Dryden from Minot Air Force Base, N. D. The crew included Maj. Joel Anderson, Lt. Col. Don Thompson, 1Lt. Chris Otis, 1Lt. Mike Pritchett and SRA Brandon Chandler.

Group Achievement Awards

X-43A Team

The X-43A Flight Research Team was recognized for the first-ever, successful free flight of an airframe-integrated super-sonic combustion ramjet at Mach 7.

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|--------------------|----------------------|
| Dryden | Michael Najera |
| Tracy Akeret | Bradford Neal* |
| Kari Alvarado | David Neufeld |
| Courtney Amos | Mark Nunnelee |
| Robert Antoniewicz | John Orme* |
| Timothy Ascough | Gary Pacewitz* |
| Catherine Bahm* | Joseph Pahle |
| Ginger Bailey | Chan-Gi Pak |
| Daniel Bain | Rhoda Parker |
| Frank Batteas | Laura Peters |
| Jeffrey Bauer | Dana Purifoy |
| Ethan Baumann* | Norma Quinn |
| Gary Beard* | Lyle Ramey |
| Courtney Bessent | Jeffrey Ray |
| Richard Bettin* | Matthew Reaves |
| Terry Bishop | Matthew Redifer* |
| Jim Blanton | Kevin Reilly |
| Andrew Blua | Paul Reukauf* |
| Michael Bondy* | Carrie Rhoades |
| Linda Bonham | Michael Richard* |
| John Bresina | Jon Rick |
| Roy Bryant | Herman Rijfkogel* |
| Trong Bui* | Steven Robinson |
| Starla Carroll | Richard Rood |
| Alexis Castelazo | Richard Rowland |
| Tony Chen | Stephanie Rudy |
| Bruce Cogan | John Ryan* |
| Mark Collard* | William Sabo |
| Michael Collie | Eliseo Sanchez |
| Roy Compton* | Steve Schmidt |
| Randy Cone | Lawrence Schuster* |
| George Cope* | Roberta Sherrard* |
| Griff Corpening* | Karla Shy* |
| M.C. Cotting* | Peter Sidoti |
| Jerry Cousins* | Alexander Sim* |
| Larry Crawford | Joel Sitz* |
| Mark Davis* | Mark Smith |
| Ray Dees* | Natalie Spivey |
| David Dowdell* | Clinton St. John* |
| Dale Edminister* | Craig Stephens |
| Lum Ehernberger | Mark Stephenson* |
| Kimberly Ennix | Brandon Stille* |
| Karen Estes | Monique Sullivan |
| Russell Franz | Douglas Taylor |
| Gordon Fullerton | Edward Teets |
| Leslie Gong* | Stephen Thornton |
| Robert Gonzales* | Christopher Torrence |
| Adae Gordon | Jack Trapp |
| Matt Graham | Roger Truax* |
| Donald Griffith* | Marilyn Tull* |
| Thomas Grindle* | Michael Vachon |
| Edward Haering | Rao Vanguri |
| Julie Haley | Leonard Voelker |
| Michael Harlow | Randy Wagner* |
| Neal Hass* | Alan Wallace |
| Teresa Hass | Alma Warner |
| Ross Hathaway* | Aric Warner |
| James Hernandez | Ryan Warner* |
| Rhett Herrera | Kirsten Williams |
| Erwin Hess | Leslie Williams |
| John Hicks | Kenneth Wilson* |
| Mark Hodge* | James Yamanaka |
| Thomas Horn* | AFFTC |
| Doug Jensen | Robert Bodwell |
| Daniel Jones* | Chuck Rogers |
| Thomas Jones* | David Warner |
| Ed Kashimoto | AMA |
| Anthony Kawano | Roger Beck |
| John Kelly* | Dave Bose |
| Patricia Kinn | Brian Strovers |
| Joseph Kinn* | Arcata Assoc. |
| Dane Lariosa* | David Faust |
| Jeanette Le* | Tony Landis |
| Melissa Less | Lori Losey |
| Leo Lett | Steve Parcel |
| Jimmie Lewis | Trace Short |
| Susan Ligon | Carla Thomas |
| Yohan Lin* | Tom Tschida |
| Doug Lindquist | AS&M |
| Jessica Lux* | Vic Bender |
| Richard Maine* | Jonathon Brown |
| Laurie Marshall* | Bill Clark |
| Lesa Marston | Bill Dana |
| David McAllister* | Casey Donohue |
| William McMullen | Donald Gatlin |
| Shaun McWherter* | Beth Hagenauer |
| Jan Minniear* | Mary Ann Harness |
| Masashi Mizukami* | Kevin Johnson |
| Timothy Moes | Kim Tucker |
| Richard Monaghan | Terry White |
| Dan Mullen | Shane Wilson |
| Chris Naftel | Meryl Zimmerman |
| Christopher Nagy | |

Public Service Group Achievement Award



EC04 0331-1

NASA Photo by Tom Tschida

For innovative cost-saving contributions to the Western Aeronautical Test Range in support of the Agency's Space Exploration and Aeronautics missions

Arcata Assoc.

- | | |
|-------------------|-------------------|
| James Abercromby | Otilia Boston |
| Earl Allen | Jennifer Campbell |
| Richard Batchelor | Anthony Canada |
| Jovany Bautista | Brian Castner |
| Gregg Bergman | Stephanie Castner |
| Billy Bollinger | Richard Chambers |
| Douglas Boston | Fred Chatterson |

- | | |
|------------------|--------------------|
| Robert Downing | Martin Hoffman |
| Richard Dykstra | Christine Irizarry |
| Gregory Faith | Lynette Jones |
| Jules Ficke | Robert Jones |
| Daniel Fisher | Todd Kunkel |
| Monica Garvin | Lori Losey |
| Karla Graves | Peter Merfa |
| Mahala Griffiths | Timothy Miller |
| Albert Guajardo | Darren Mills |
| Robert Guere | Stacey Mills |
| Steven Hansen | Christina Myers |
| Dennis Heathcock | Jeffery Nelms |

- | | |
|------------------|------------------|
| Steve Parcel | Justin Thomas |
| James Pavlicek | Douglas Thomsen |
| John Payne | James Tilley |
| Linda Peters | David Upton |
| Timothy Peters | Dennis Vansickle |
| Patrick Ray | Michael Webb |
| Brady Rennie | Tracey Willis |
| Robert Rierson | Pete Young |
| Hector Rodriguez | John Yount |
| Jack Sheldon | |
| Trace Short | |
| David Smith | |

DCI

- | |
|-------------------------|
| Gavin Jenny |
| W. Tally |
| Dyncorp |
| Charlie Nichols |
| Linda Soden |
| GRD |
| Lisa Earussi |
| Lisa Martin |
| Infinity |
| Angela Rhodes |
| Kalman & Co. |
| Jim Lester |
| Fred Watts |
| U.S. Navy |
| Kurt Dulka |
| Platinum |
| Mike Beck |

Sparta

- | |
|------------------------|
| Justin Curtis |
| Sparta/Spiral |
| Carole Barklow |
| Spiral |
| Maryam Ebrahimi |
| Paul Lundstrom |
| Kimberly Tucker |
| Woodside Summit |
| Janene Bettin |
| Zeltech |
| Dave Fratello |
| Wayne Hicks |

*Dryden civil servants with more than 2,000 hours on the X-43A project between 2000 and 2005

SCSC

- | |
|--------------|
| Kelly Irving |
|--------------|

DC-8 INTEX Group

For exceptionally successful deployments supporting complex and highly important scientific missions to Chile, Costa Rica, and the United States.

Civil Service (Dryden)

- | |
|---------------------|
| Doug Baker |
| Frank Batteas |
| Craig Bomben |
| Bill Brockett |
| Bob Curry |
| Bette Davis |
| Dick Ewers |
| Gordon Fullerton |
| Ed Haering |
| Chris Jennison |
| Ray Kinney |
| Walter Klein |
| Sirell Lane |
| Ed Lewis |
| Susan Ligon |
| Bobby McElwain |
| John McGrath |
| Chris Miller |
| Marty Trout |
| Leslie Welch |
| AFFTC (EAFB) |
| Jon Haser |

ARC

- | |
|--------------------------|
| Quincy Allison |
| Michael Craig |
| Mike Gaunce |
| Greg Klinedinst |
| Kent Schiffer |
| Kathy Thompson |
| Sue Tolley |
| AS&M (Dryden) |
| Chris Ashburn |
| Daumants Belte |
| Cindy Parks |
| Carl Sorenson |
| Trent Theriault |
| Sky Yarbrough |
| Infinity (Dryden) |
| Lea Ames |
| LARC |
| Vic Delnore |
| LMLM (Dryden) |
| Kevin Bedingfield |
| Mike Bereda |
| Brent Bieber |
| Mark Corlew |

- | |
|---------------|
| Steve Davis |
| Kevin Hall |
| Mike Lakowski |
| Rudy Mendiola |
| Joe Niquette |
| Paul Ristrim |
| Scott Silver |

SAIC (Dryden/ARC)

- | |
|---------------------|
| Dennis Gearhart |
| UPC (Dryden) |
| Ron Bailey |
| Wendy Given |
| Kevin Kraft |

AIRSAR Group

Civil Service (Dryden)

- | |
|--------------------------|
| Doug Baker |
| Craig Bomben |
| Bill Brockett |
| David Bushman |
| Dick Ewers |
| Gordon Fullerton |
| Ray Kinney |
| Walter Klein |
| Sirell Lane |
| Ed Lewis |
| John McGrath |
| Mark Pestana |
| Marty Trout |
| Leslie Welch |
| Arcata (Dryden) |
| Lori Losey |
| Jim Ross |
| AS&M (Dryden) |
| Daumants Belte |
| Cindy Parks |
| Sky Yarbrough |
| Infinity (Dryden) |
| Lea Ames |
| JPL |
| Ron Blom |
| Bruce Chapman |
| Steve Durden |
| Bill Fichter |

- | |
|---------------------------|
| Scott Hensley |
| David Imel |
| Yunling Lou |
| Tim Miller |
| Eric Ringnot |
| Ernesto Rodriguez |
| Sassan Saatchi |
| Greg Sadovy |
| Paul Siquiera |
| Robert Treuhaft |
| LMLM (Dryden) |
| Kevin Bedingfield |
| Mike Bereda |
| Brent Bieber |
| Mark Corlew |
| Steve Davis |
| Kevin Hall |
| Mike Lakowski |
| Rudy Mendiola |
| Joe Niquette |
| Paul Ristrim |
| Scott Silver |
| SAIC (Dryden /ARC) |
| Dennis Gearhart |
| UPC (Dryden) |
| Ron Bailey |
| Wendy Given |
| Kevin Kraft |

Range Safety Systems Team

For excellence in helping flight projects succeed while ensuring public safety and significantly advancing range safety technology for the nation.

- | |
|-----------------|
| Jerry Budd |
| Maria Caballero |
| Steven Cumming |
| Douglas Folkes |

- | |
|------------------|
| Anthony Kawano |
| Dennis Morehouse |
| Mark Thompson |
| Michael Young |

X-37 Hot Structures Team

For outstanding performance in conduct of X-37 hot structures testing.

Dryden Test Engineering/Technicians

- | |
|---|
| Alexis Castelazo |
| Joe Fowler |
| Larry Hudson |
| Joseph Lopko |
| David Neufeld |
| Mark Nunnelee |
| Allen Parker |
| Anthony Piazza |
| Lance Richards |
| Knut Roepel |
| Eliseo Sanchez |
| Craig Stephens |
| Christopher Torrence |
| Van Tran |
| Dryden Machine Shop/Safety/Quality Assurance |
| Andrew Blua |
| John Breiding |
| Keith Day |
| Kenneth Delaney |
| Dean Lebret |
| Thomas McMullen |

David Oates Dryden Project Management/Support AS&M Test Engineering/Technicians

- | |
|-----------------------------------|
| Larry Chien |
| Shawn Hardiman |
| Stephen Hoffman |
| Robert Shannon |
| Steve Thomas |
| Gary Williams |
| Art Younger |
| Sparta |
| Ronnie Haraguchi |
| GRD |
| Project Management/Support |
| Lynne Faith |
| Dyncorp |
| Machine Shop |
| Rick Fleming |
| Joe Pengilly |

Public Service Group Achievement Awards

Arcata Associates

For innovative cost-saving contributions to the Western Aeronautical Test Range in support of the Agency's Space Exploration and Aeronautics missions.

- | |
|-------------------|
| James Abercromby |
| Earl Allen |
| Richard Batchelor |
| Jovany Bautista |

- | |
|-----------------|
| Gregg Bergman |
| Billy Bollinger |
| Douglas Boston |
| Otilia Boston |

See NASA Awards, page 8

NASA Awards

... from page 7

- | | |
|--------------------|------------------|
| Jennifer Campbell | Darren Mills |
| Anthony Canada | Stacey Mills |
| Brian Castner | Christina Myers |
| Stephanie Castner | Jeffery Nelms |
| Richard Chambers | Steve Parcel |
| Fred Chatterson | James Pavlicek |
| Robert Downing | John Payne |
| Richard Dykstra | Linda Peters |
| Gregory Faith | Timothy Peters |
| Jules Ficke | Patrick Ray |
| Daniel Fisher | Brady Rennie |
| Monica Garvin | Robert Rierson |
| Karla Graves | Hector Rodriguez |
| Mahala Griffiths | Jack Sheldon |
| Albert Guajardo | Trace Short |
| Robert Guere | David Smith |
| Steven Hansen | Justin Thomas |
| Dennis Heathcock | Douglas Thomsen |
| Martin Hoffman | James Tilley |
| Christine Irizarry | David Upton |
| Lynette Jones | Dennis Vansickle |
| Robert Jones | Michael Webb |
| Todd Kunkel | Tracey Willis |
| Lori Losey | Pete Young |
| Peter Merfa | John Yount |
| Timothy Miller | |



EC05 0134-17

NASA Photo by Tom Tschida

Institute for Scientific Research

For outstanding support to the F-15 Intelligent Flight Control System project.

- | | |
|----------------------------|---------------|
| Robert Davis | Eric Sorton |
| Brian Griffith | Sharon Strait |
| Kristian Hammaker | Brian Taylor |
| Lane Liabraaten | Steven Yokum |
| Marcello Napolitano | |
| (West Virginia University) | |
| Kevin Niewoehner | |
| Steve Rogers | |
| Phillip Rossi | |
| Spiro Skias | |

Length of Service Awards

- | | |
|------------------|------------------|
| 45 Years | 25 Years |
| Donald Jameson | Daniel Banks |
| | Teresa Barbic |
| 35 Years | Louann Beu |
| Leonard | William Brockett |
| McReynolds | John Del Frate |
| | Robert Garcia |
| 30 Years | Don Hermann |
| Jennifer | Raymond Kinney |
| Baer-Riedhart | JoAnn Larson |
| Michael Bondy | Eliseo Sanchez |
| Linda Gaugler | Michelle Vial |
| Donald Griffith | Bridgette |
| Stephen Ishmael | Washington-Brown |
| John LaPointe | Ronald Wilcox |
| Donald Logan | |
| Dale Mackall | |
| Karen Mackall | |
| Mary Matheny | |
| Gary May | |
| Charles Miller | |
| Lawrence Myers | |
| Rosemary Sanchez | |
| Stephen Thornton | |
| Donald Warren | |
| Michael Yettaw | |



EC05 0134-17

NASA Photo by Tom Tschida

Above, Dan Mariconetti, left, an Undergraduate Student Research Program student, and Dryden co-op student Dmitriy Bekker are always thinking about airplanes – even at the park. At right, Michelle Davis, Dryden pre-college officer, applies a temporary NASA meatball tattoo to 8-year-old Benjamin Cobleigh.



EC05 0134-17

NASA Photo by Tom Tschida

Summer fun

Dryden employees and their families had a day of food, fun and games June 18 at the 2005 Dryden Summer Picnic, held at George Lane Park in Quartz Hill. Sponsored by the Exchange Council, the event featured barbecue, a clown and games for the kids, basketball and baseball for the adults. In the above photo, Dryden pilot Jim Smolka prepares for his turn at bat. Events like the sack race, at top, brought smiles to the faces of kids like, from left, Arianna Anchondo, an unidentified racer, and Katie and Rachel Thomson.



EC05 0134-17

NASA Photo by Tom Tschida

The NASA X-Press is published for civil servants, contractors, retirees and people with interest in the work of the Dryden Flight Research Center.

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